Why Use 10 Tubes to Hear Radio From Europe?

Milwaukee Amateur Chats With Britisher, Receiving on Two Tubes

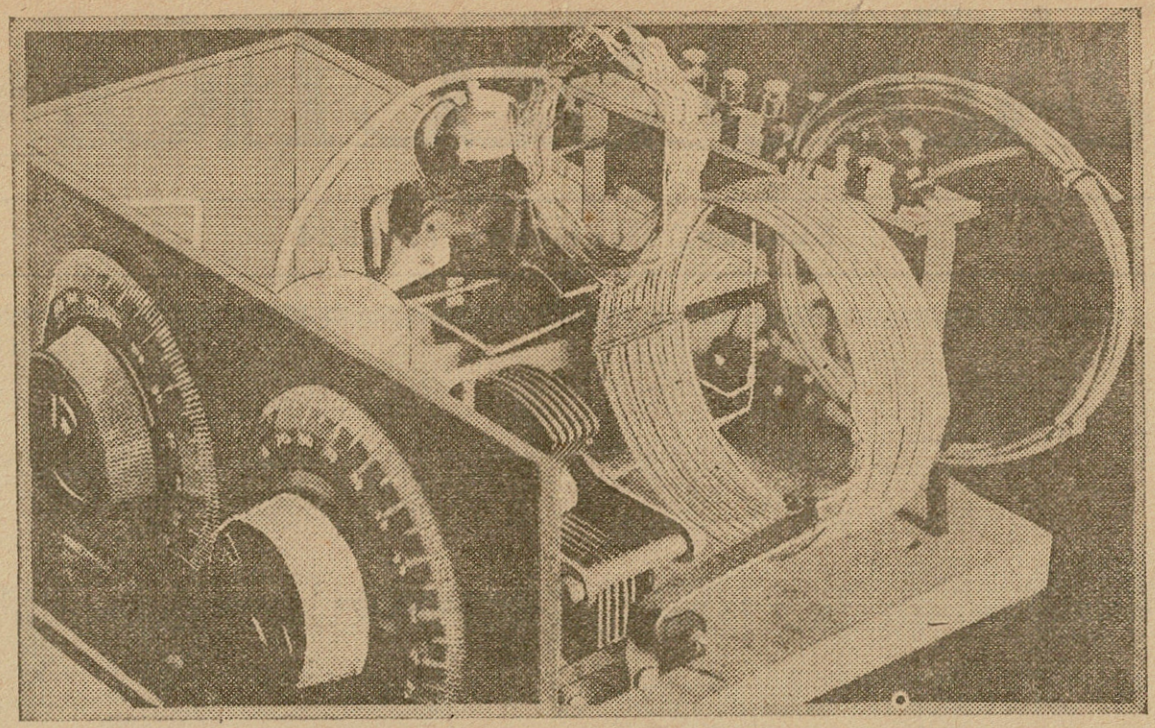
BY BCL

It isn't the number of tubes in your receiving set that measures the distance over which the set will pull in the signals. Witness a mess of coils and crudity that answers for a tuner in the "ham shack" of Fred W. Catel and Charles S. Polacheck out near the Lake park police station and truck stable. Not much of a radio, you'll say. Only a couple of tubes and some crude coils, condenser and binding posts. Not even a nice cabinet.

That set would never get by in the sitting room of a good housekeeper. Send for a superiodyne with some gold engraving on the panel and a row of tubes long enough to floodlight The Journal-bldg. But listen, folks! Deaf as I am, I heard California signals on this receiver, and sat by listening on headphones, while Fritz at the key, wearing another set of "cans," held conversation with a Philadelphia amateur and delivered a message I was trying to get through to a fellow member of the "Graphite Spreaders' union." That was a bit of American Radio Relay league free citizen message work.

Talked With England!

But that's not so much. Here comes Friederich and relates how he "worked British 2OD" last Wednesday at about 1:30 a. m. Passing over the idiocy of staying up at that hour to rattle a transmitting key and strain your ears at a receiver, let's see what this means. The Britisher was crazier than our odd friend, at that, for when it was 1:30 a. m. in Milwaukee it was 7:30 a. m. in England, and it's likely that the Britisher had not yet slept. At that time it must have been daylight in England and over a goodly portion of the 4,200 miles between the two stations.



Two Tubes, 'Low Loss' Construction, and England

This is the little receiver on which Fred Catel, 9DTK, talked with a British radio amateur, 4,200 miles from Milwaukee. The large coil was wound on a piece of tile drain pipe, each turn spaced with string which was removed when all the turns were put on and made fast. Then the coil was glued with "banano oil" and the pipe form was broken and removed. Different sizes of coils can be clipped in to match different wavelength bands desired to be covered.

The Milw[illegible]

tween these distant stations must have been held for some time, because the Britisher told the Milwaukeean that his station was British 2OD and was owned by P. J. Simmonds, located at Queensway, Garrett's Cross, England, and that he had been fortunate in distance work, having been "QSO" (code for "in communication with") Australia on Nov. 30, and having also heard amateur signals from New Zealand. Fred says th[illegible]s were readable, but r[illegible] difficult he[illegible] pheric[illegible]

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ing to signals sent out with not more than 100 watts of power behind them. British stations that took part in the recent international tests use as much as 5,000 watts. At the Milwaukee station, 9DTK, only one 50-watt transmission tube is used.

Now, what's the answer? These amateurs, Catel and his chore boy, Charlie Polacheck, 9CMP, say it's "low loss." If you can hog tie them long enough to ask what they mean by that you'll find out something like this: Radio currents are ever so tiny, and ever so prone to stray and be absorbed and lost. So you have to build your apparatus so that these tiny currents can't get anywhere but where you want them to go—whatever that means.

Care at Every Step

Every step in the operation of the "low loss fanatic" is carefully planned and considered. Up at 9DTK-9CMP they do nothing until they have debated and fought over it for three days. DTK wins most arguments because he's an old ship operator and knows when to swing a wicked belaying pin.

Here are some "low loss" stunts they employed. Used glass rods (bathroom towel rack stuff) as insulators for their antenna and counterpoise system. Wound coils without any supporting material, and placed them so that as little as possible material would be within their fields. Tickler coil was wound staggered, and primary straight and spaced, and stuck together with "banana oil" (celluloid dissolved in acetone).

Drilled Glass Seven Hours

Mounted their change-over switch on a pyrex glass baking dish that required seven hours of work to drill seven holes. They also selected a good low loss condenser, the National, with the famous "velvet vernier" dials. The little tickler coil is mounted to a bit of hard rubber, then to a brass arm and in tuning is swung through the field of the secondary coil. They also used enough copper tubing to make a good still.

Manufacturers of receiving sets are tending toward "low loss" practice, but they have to build strongly rather than delicately, to avoid the set getting out of order in handling. They have to "doll up" their products to attract the eye of the buyer. There are also problems of production that limit the extent to which manufacturers can employ "low loss" practice.

Government Stations